

L 31139-66 ENT(m)/EWP(w)/ENA(d)/T/EWP(t) IJP(o) JD

ACC NR: AP6012234

SOURCE CODE: UR/0129/66/000/004/0019/0021

AUTHOR: Bashchenko, A. P.; Gurevich, Ya. B.; Kogan, L. I.; Teymer, D. A.; Entin, R. I.

ORG: TsNIIChERMET

TITLE: Investigation of steels susceptible to secondary hardening and strengthened by thermomechanical treatment

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 4, 1966, 19-21

TOPIC TAGS: steel treatment, thermomechanical treatment, low temperature treatment, high temperature treatment /45Kh5M3F, 42Kh2N2VFS, 44Kh5MVFS, 60Kh5MVFS

ABSTRACT: The effect of thermomechanical treatment on the properties of 45Kh5M3F, 42Kh2N2VFS, 44Kh5MVFS, and 60Kh5MVFS structural steels susceptible to secondary hardening has been investigated. Low temperature thermomechanical treatment (austenitizing at 1050—1100C for 15—20 min, cooling to 550C, plastic deformation with 75% reduction, water quenching followed by refrigeration in liquid nitrogen and tempering) improved the strength of all steels tested. For instance, at 330C the tensile strength was 230—266 kg/mm<sup>2</sup>, the yield strength 233—260 kg/mm<sup>2</sup>, the elongation 3%, and the reduction of area 15—30%. Corresponding figures for 480C were 204—246 kg/mm<sup>2</sup>, 194—236 kg/mm<sup>2</sup>, 3—4%, and 18—38%. However, 42Kh2N2VFS and 60Kh5MVFS steels in the as-hardened or low-tempered condition were brittle at room-temperature. The yield strength can be increased to about 200 kg/mm<sup>2</sup> at 500C and about 250 kg/mm<sup>2</sup>.

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ENC. 510 374 621 785

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at 330C. High-temperature thermomechanical treatment brings about a less pronounced increase in strength, compared to LTTMT, but a higher ductility. High-temperature tempering of steels alloyed with elements causing secondary hardening can bring about a secondary martensitic transformation. Therefore, these steels should be retempered to eliminate the secondary martensite. The second tempering of conventionally hardened steel considerably increases strength and ductility, but in the case of steel subjected to LTTMT, increases only the ductility. Orig. art. has: 4 figures and 1 table.

[WW]

SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 002/ ATD PRESS 4240

Card 2/2 LC

ACC NR: AR6013665

SOURCE CODE: UR/0058/65/000/010/E028/E028

AUTHOR: Kogan, L. I.; Entin, R. I.

TITLE: The transformation of austenite in the intermediate region

SOURCE: Ref. zh. Fizika, Abs. 10E219

REF SOURCE: Sb. tr. In-t metalloved. i fiz. metallov Tsentr. n.-i. in-ta chernoy metallurgii, vyp. 36, 1964, 222-226

TOPIC TAGS: *phase transition,* crystal growth, austenite transformation, *austenite* steel / U9 steel, 100 M steel, 90S2 steel, 70N3 steel

TRANSLATION: The growth rate of  $\alpha$ -phase crystals during intermediate transformations (at 250, 300 and 350°C) was measured in U9, 100 M, 90S2 and 70N3 steels on the Lozin-skiy apparatus. It is hypothesized that the growth of  $\alpha$ -phase crystals is limited by the rate at which C is removed from the edge of the growing crystal. The small activation energy of  $\alpha$  and intermediate transformation (12,000-14,500 cal/gram-atom) as compared to the activation energy for C diffusion in austenite (32,000 cal/gram-atom) is related to the high stress that occur in austenite during a transformation and only slightly relax at intermediate temperatures. The effect of alloy elements on the growth rate of  $\alpha$ -phase crystals is discussed. 9 references. I. Tulupova.

SUB CODE: 11,20

Card 1/1

ENTIN. S. D., jt. su.

Isothermal production of martensite Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.  
lit-ry, 1953. 102 p. (54-17684)

TN731.P75

*ENTIN, S.D.*

SOKOLOV, Vasily Stepanovich, ~~ENTIN~~, S.D., nauchnyy red.; TOMOCHENKO, L.K.,  
nauchnyy red.; YAKUBOVICH, T.S., nauchnyy red.; SINITSYN, S.N.,  
nauchnyy red.; KORIKOVSKIY, I.K., red.; MEDVEDEV, L.Ya., tekhn.red.

[Detection of flaws in materials] Defektoskopiia materialov.  
Moskva, Gos.nerg.isd-vo, 1957. 239 p. (MIRA 11:2)  
(Metals--Testing)

137-58-2-3940

*ENTIN, S.D.*

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 238 (USSR)

AUTHOR: Entin, S.D.

TITLE: On the Effect of Plastic Deformation Upon the Aging of Austenitic Alloys (K voprosu o vliyanii plasticheskoy deformatsii na stareniye austenitnykh splavov)

PERIODICAL: V sb.: Fiz. -khim. issled. austenitn. (Russian original reads "naustenitan.") splavov. Moscow, Mashgiz, 1957, pp 107-115 (Trudy kn 84 Tsent. ~~NII~~ tekh. i mashinostroyeniya)

ABSTRACT: The effect of preliminary cold deformation (CD) on austenite transition during the aging (A) of 1Kh18N9T and EI572 steels were investigated. Specimens of 1Kh18N9T steel pre-hardened at 1200°C were held for various times up to 250 hours at 700° after varying degrees of CD (9, 23, 50 and 66%), and also when no CD had been performed. The stability of austenite on A was evaluated by change in magnetic susceptibility  $\chi$ . The curve showing the dependence of  $\chi$  upon the holding time for CD revealed a maximum at 100 hours, indicating the fact that the process of magnetic precipitation of the  $\alpha$  phase predominated when held for 100 hours, but that

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# On the Effect of Plastic Deformation Upon the Aging of Austenitic Alloys

dissolution of the  $\alpha$  phase was dominant when holding was for a longer period. A considerable quantity of  $\alpha$  phase formed on CD after only 5-6 hours. C dissolves at 700°, and when held for longer periods the  $\alpha$  phase is again gradually precipitated. The maximum on the  $\chi$  curves for levels of CD up to 23% is shifted toward the smaller holding times, as the degree of CD increases. At 50 and 66% CD, there is no maximum in the curves. CD of 1Kh18N9T, which induces a pronounced decomposition of austenite directly during the CD, gives austenite high stability during subsequent A. Pre-deformed EI572 steel was A at 660 and 760°. Specimens hardened from 1200°, were subjected to different degrees of CD by elongation of from 0-40% and were then held at the A temperature up to 1000 hours, after which their  $\chi$  was measured and metallographic analysis was performed. It was established that, in non-deformed steels, austenite undergoes virtually no disintegration whatever when held for 1000 hours at 660°. The  $\alpha$  phase precipitated on CD of EI572 steel is also more stable than in 1Kh18N9T steel, and holding of the order of 100 hours is required to resolve it. At an A temperature of 760° the  $\alpha$  phase formed on CD is completely dissolved after 10 hours of A. The effect of semi-hot work-hardening at temperatures to 700°, on the austenite transformation in EI572 and 1Kh14N14V2M steels was also investigated. After deformation, the specimens were A at 660 and 760° for 10, 100 and 1000 hours.

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**On the Effect of Plastic Deformation Upon the Aging of Austenitic Alloys**

Measurement of  $\lambda$  showed that the austenite in these steels does not decompose either in the process of deformation at temperatures up to 700° or in subsequent A at 660 and 760°. Acceleration of the stabilization of the phase composition of 1Kh18N9T steel at 700° when preliminary CD has been performed may be employed to accelerate artificial A.

M. Sh.

**1. Steel—Aging—Effects of deformation    2. Steel—Deformation**

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*ENTIN, S. D.*

1 37-58-2-3941

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 238 (USSR)

AUTHOR: Entin, S. D.

TITLE: Formation of an  $\alpha$  Phase on Plastic Deformation of Austenitic Alloys (Obrazovaniye  $\alpha$  - fazy pri plasticheskoy deformatsii austenitnykh splavov)

PERIODICAL: V sb.: Fiz. -khim. issled. austenitn. splavov. Moscow, Mashgiz, 1957, pp 116-125

ABSTRACT: Magnetic analysis was employed to investigate the effect of plastic deformation on the formation of the  $\alpha$  phase in 9 commercial grades of austenitic steels. It was first established that the higher the temperature at which the steel was hardened, the more stable was its structure in terms of the formation of an  $\alpha$  phase. Steel hardened and stabilized at 700-800°C is least stable. The reason for this is the lower alloying of the austenite in hardened and stabilized steel. The tendency to formation of the  $\alpha$  phase in accordance with degree of deformation differs amongst different steels. Steel 15-15-3 and 20-20-20, in which no  $\alpha$  phase was observed on deformations up to 40%, were the most stable against forma-

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137-58-2-3941

# Formation of an $\alpha$ Phase (cont.)

tion of an  $\alpha$  phase. When EI395 steel is rolled, no decomposition of austenite is observed, even at 70% deformation. The effect of deformation at elevated temperatures upon austenite decomposition was also investigated. Specimens were subjected to identical degrees of elongation (20%) at various temperatures. It was established that the temperature of deformation affects the amount of  $\alpha$  phase in the 20-200° interval only. At higher temperatures, the difference in the amount of  $\alpha$  phase is negligible. It follows that hot deformation may result in a higher nonuniformity in phase composition if the temperature in various portions of the metal is not identical. Measurement of magnetic susceptibility directly during elongation with the aid of a special induction apparatus shows that formation of the  $\alpha$  phase proceeds at the instant of deformation.

M.Sh.

1. Steel—Phase transitions—Effects of deformation
2. Steel—Deformation

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ENTIN, S. D.

137-58-3-6171

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 246 (USSR)

AUTHOR: Entin, S. D.

TITLE: A Device for Measurement of the Magnetic Susceptibility of Austenite Alloys (Pribor dlya izmereniya magnitnoy vospriimchivosti austenitnykh splavov)

PERIODICAL: V sb.: Fiz.-khim. issled. austenitn. splavov. Moscow, Mashgiz, 1957, pp 251-254

ABSTRACT: A thermomagnetic device for the measurement of magnetic susceptibility (MS) of austenite alloys is described. The device, based on the paramagnetic method for the investigation of the ferromagnetic  $\alpha$  phase, is composed of an electromagnet with a dial arrangement and a furnace with a lifting mechanism. The force acting on the specimen (S) owing to the magnetic field (MF) is balanced by the field of a solenoid which acts on a ferromagnetic rod which is rigidly connected to the suspension of the S. The greater the MS of the S being tested, the greater is the force of the MF which holds it and the greater is the current that must be sent through the solenoid in order to create a balancing force. An

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S 12 mm long and 3 mm in diameter is encased in a section of

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# A Device for Measurement of the Magnetic Susceptibility of Austenite Alloys

quartz tubing mounted on a free-swinging, rigid suspension made of magnetic steel. The tubing containing the S is situated between the poles of the electromagnet and, when the latter is energized, comes to rest automatically in a region where the intensity of the MF is maximum. Attached to the suspension are two needles, one made of  $\alpha$ Fe and one of austenite steel. As the current in the coil increases, the  $\alpha$ Fe needle is drawn into the coil until a special contact needle closes an electrical circuit for a signal light. Concurrently with the movement of the  $\alpha$ Fe needle, the suspension system carrying the S (which is being held back by the field of the electromagnet) is also displaced. At the instant the signal light appears, the current necessary to displace the S from an MF of maximum intensity to a weaker MF is observed on an ammeter. The magnitude of this current is proportional to the force acting upon the S and, consequently, is also proportional to its MS. The MS may be measured at temperatures ranging from room temperature to 1000°C. The electrical circuit scheme of the thermomagnetic device is shown. The S is heated in a mobile, tubular electric furnace. Two coaxial tubes made of heat-resistant nonmagnetic steel provide the necessary electrical resistance for the furnace. The alternating currents which pass through these tubes are opposite in sense and, therefore, do not create any MF's within the furnace. Electromagnets, as well as permanent magnets of highly coercive Magnico alloys, may be employed

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A Device for Measurement of the Magnetic Susceptibility of Austenite Alloys

successfully in the device. In the latter case, the intensity of the MF in a 15 mm gap formed by wedge-shaped poles made of  $\alpha$ Fe, reaches a value of 4000 oersted. The device described makes it possible to study, in terms of the MS, changes in phase composition of heat-resistant austenitic alloys of different chemical composition during various heat treatment procedures in the process of aging, in the course of plastic deformation, etc.

L.G.

Card 3/3

*ENTIN, S.D.*

137-58-5-9689

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 118 (USSR)

AUTHORS: Entin, S.D., Kozlov, V. Ya.

TITLE: An Electromagnetic Instrument for Determination of Ferrite in Welds in Austenitic Steels (Elektromagnitnyy pribor dlya opredeleniya ferrita v svarnykh shvakh austenitnykh staley)

PERIODICAL: V sb.: Fiz-khim. issled. austenitn. splavov. Moscow, Mashgiz, 1957, pp 255-259

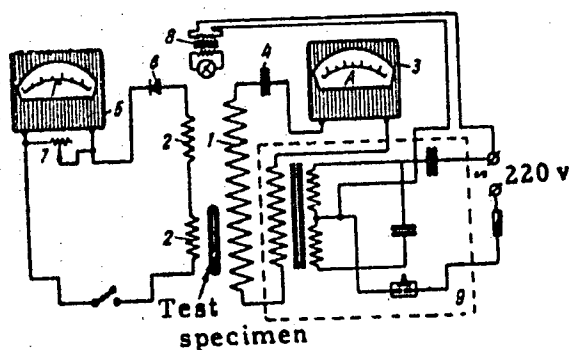
ABSTRACT: The linear ratio of the magnetization to the intensity of the magnetic field at 1000-1500 oersteds and the proportionality between the slope of the magnetization curves and the quantity of ferrite phase has been employed to develop an instrument using A-C and a differential network to determine the amount of ferrite in austenitic alloys. The basic electrical circuit of the instrument consists of a field winding 1 having 8000 turns of PE wire, 0.7 mm gage; 2 measuring windings 2 of 0.16 mm gage PE wire, 7000 turns each, in differential connection; a one-amp A-C ammeter 3 to measure the current in the field winding; a 25-microfarad capacitor 4 connected in series with the field-coil circuit to increase the current therein by reducing

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# An Electromagnetic Instrument (cont.)

the phase shift between current and voltage; a 17-mv galvanometer 5 to measure the emf when the test specimen is introduced into one of the measuring windings; a DGTs8 germanium diode 6 to rectify the alternating emf; a gal-



vanometer shunt 7 for up to 15 ohms to vary the sensitivity of the galvanometer; a step-down transformer 8 to feed the signal tube and the ferro-resonance stabilizer 9 with 40 v to stabilize the voltage in the field winding. The instrument is used with specimens 5 mm in diameter and 60 mm long. It can be used to

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137-58-5-9689

An Electromagnetic Instrument (cont.)

determine the amount of ferrite in austenitic alloys with an accuracy of 0.2%, if this content does not exceed 5%, and with an accuracy of 0.5-0.7% if the content is up to 15%.

V.S.

1. Ferrites--Determination    2. Welds--Chemical analysis    3. Chemical analysis  
--Instrumentation    4. Electromagnetism--Applications

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ENTIN, S.D.

135-4-2/15

SUBJECT: USSR/Welding

AUTHORS: Lazarev B.I., Candidate of Technical Sciences, and Entin, S.D.,  
Candidate of Technical Sciences.

TITLE: Magnetic Method for Determining the Ferrite Phase in Weld  
Metal. (Opredeleniye ferritnoy phazy v metallu shva magnitnym  
metodom).

PERIODICAL: "Svarochnoye Proizvodstvo", 1957, # 4, pp 5-8 (USSR)

ABSTRACT: Subject laboratory investigation had the purpose of finding  
an effective method and designing an apparatus for control and  
quick determination of the quantity of the ferrite phase of  
welds in austenitic steel. The electrodes "UT-7" (used for austenitic  
steel "3M405" and "3M257") and "UT-15" (used for steel  
"1X18H12T" and "1X18H9T") were investigated. Their chemical  
composition is listed in the article.

The proposed method of determining the quantity of the ferrite  
phase contained in heterogeneous alloys is based on the known  
fact that the ferrite phase is ferromagnetic, whereas austenite  
and the majority of the composite carbides are paramagnetic.

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135-4-2/15

**TITLE:** Magnetic Method for Determining the Ferrite Phase in Weld Metal. (Opredeleniye ferritnoy phazy v metalle shva magnitnym metodom).

The method requires the use of very strong electric magnets. When used in combination with a ballistic device, the determination is only possible in a research laboratory or in an industrial plant laboratory.

For quick testing under conditions of the industrial production, an electromagnetic device has been developed (by TsNIITMASH). (Its circuit diagram is shown in the article).

The article contains 3 tables, 4 diagrams, 1 electrical scheme, 1 sketch, and 2 micro-photographs.

**ASSOCIATION:** TsNIITMASH

**PRESENTED BY:**

**SUBMITTED:**

**AVAILABLE:** At the Library of Congress  
Card 2/2

ENTIN, S. D

PHASE I BOOK EXPLOITATION SOV/2555

Научно-техническое общество приборостроителей промышленности Украинской республиканское правление

Novyye metody kontrolya i defektoskopii v mashinostroyenii i pri-  
borostroyenii [doklady Respublikanskoy konferentsii] (New Methods  
of Inspection and Flaw Detection in the Machinery and Instrument-  
manufacturing Industries [reports of the Conference Held at Kiyev,  
1956]) Kiyev, Oostekhoizdat USSR, 1958. 264 p. 4,700 copies printed.

Sponsoring Agency: Akademiya nauk USSR.

Ed.: A. Amelin; Tech. Ed.: F. Patselyuk; Editorial Board: I.I. Greben', B.D. Grozin, A.Z. Zhuravskiy, G.N. Savin (Resp. Ed.), I.D. Panyarnen (Dep. Resp. Ed.), and A.A. Shishlovskiy.

**PURPOSE:** This book is intended for engineers, scientific workers, and technicians dealing with problems of inspection and flaw detection.

**COVERAGE:** This is a collection of scientific papers presented at a

conference sponsored by the Academy of Sciences, UkrSSR, and the Nauchno-tekhnicheskoye obshchestvo priborostroyitelov Ukrainy (Scientific Society of the Instrument-manufacturing Industry) at the USSR Academy of Sciences. The conference was devoted to the problems of the use of modern methods of inspection and flaw detection used in the manufacturing of instruments and instruments-manufacturing industries. The subjects discussed at the conference were: the use of electron microscopes in the investigation of metal surfaces; the use of ultrasonic methods of testing; magnetic, magnetic, and ultrasonic methods of testing; gamma-ray, luminescent, and radioactive isotope, X-ray diffraction methods of testing; use of the method of interferometers for measuring length and thickness; and the use of interferometers for measuring linear thermal expansion. The determining the coefficient of linear thermal expansion. No personalia are mentioned. References follow several of the papers.

Gendin, V.M., Engineer, Gor'kiy "Krasnoye Sornovo" Plant. X-ray Diffraction Quantitative Phase Analysis Using Standard X-ray Photographs

Zhukovskiy, A. Z., and L. M. Pakhmanin, Candidate of Physical and Mathematical Sciences, Kiev State University Ieoni Shevchenko. Problems of Physical Strength and Crack Formation in Case-Hardened Parts.

Levengauz A. V., Engineer, and P. M. Yelchin, Moscow TANIIMASH.  
Methods and Equipment for Testing of

**Author:** **Sakharov, I. M., Engineer, Avtozavod, G. Gor'kiy (or'kiy Avtomobil'nyy Zavod, G. Gor'kiy Automobile Plant). Experience Gained at the Laboratory for Spectral Analysis, G. Gor'kiy Automobile Plant**

Gerwin, N.Y.—Candidate of Physical and Mathematical Sciences, **SPRINTS**. New Developments in the Field of Magnetic-Particle Law Detection and Magnetic Metallography

Ignatyev, A.V., Candidate of Technical Sciences, Institut, o/va

26, Moskva (Institute, Post Office Box 126, Moscow). Improved methods and equipment for magnetic inspection of ferromagnetic parts

Anda, V. A. -- Engineer Moscow VNIIL. Instruments for a Magnetic Quality Control Method of the Heat Treatment of Tools Made From High-speed Steels

ntin, S.D. Candidate of Technical Sciences, Moscow TANTIMASH.  
Application of a Magnetic Method for Investigating Heat-resistant  
Austenitic Alloys 121

Mezhenko, M. V., Candidate of Technical Sciences, and V. P. Fil'mov, Engineer, Kiev Electric Welding Institute (Izmen).

**Y. I. Zubharova, M. R.** Candidate of Technical Sciences, and **I. N. Yermolov, I. A. S. O. Paton.** Ultrasonic Structural Analysis of Metals 126

urevich, A.L., Engineer, Leningrad NII of Bridges. Ultrasonic  
No 5/9

KLIMCHENKO, M.M.; ENTIN, S.D.

Method for the determination of residual austenite in surface-hardened steel. Zav.lab. no.11:1326-1328 '59. (MIRA 13:4)

1. Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya.

(Austenite) (Steel--Analysis)

YEREMIN, N.I., kand.fiz.-mat.nauk; YELICHIN, P.M., inzh.; KOMAROVSKIY,  
A.G., kand.tekhn.nauk; CHEBUKHOVA, Ye.Ye., kand.tekhn.nauk;  
SHMELIN, B.A., kand.tekhn.nauk; ENTIN, S.D., kand.tekhn.nauk

Physical and chemical methods for the investigation in the  
phase analysis of alloys. [Trudy] TSNIITMASH 100:90-106  
'59. (MIRA 13:7)

(Alloys)

ENTIN, T.I., dotsent.

Experimental research on the regeneration of contacts between the  
neurons of the visual cortex of the brain and primary visual centers.  
Nauch. biul. Len. un. no.32:28-30 '54. (MLBA 10:4)

1. Kafedra anatomii i gistologii.  
(OPTIC NERVE) (REGENERATION (BIOLOGY))

GUENTIN, T.I.

Investigation of synapses of the visual area of the cerebral cortex.  
Arkh. anat. gist. i embr. 31 no.4:25-32 O-D '54. (MLRA 8:2)

1. Iz kafedry anatomii i gistologii (sav. zasluzhennyi deyatel'  
nauki prof. D.I.Deyneka) Leningradskogo gosudarstvennogo universiteta  
imeni A.A.Zhdanova.

(CEREBRAL CORTEX, physiology,  
synapses in visual area)

S-1

USSR / Human and Animal Morphology: Nervous System.

Abs Jour : Ref Zhur. Biol., No 5, 1958, No 21657

Author : Entin, T. I.

Inst : Not given

Title : On Development of Neurons and Commissures in the Visual Area of Cerebral Cortex in Cats.

Orig Pub : V sb.: Probl. morfol. nervn. sistemy. L., Medgiz, 1956, 59-64.

Abstract : A study was made of relationship between differentiation of basic cellular forms (pyramidal and stellate) and development of synaptic apparatus in the visual area of feline cerebral cortex. In a 4-week old embryo the cortical plate is distinctly separate, the neuroblasts are bipolar and from their poles come sharply sinuous offshoots. In a 4.5 week old embryo the cortex is divided into firm surface layer and a lower and loosened layer. Short basal

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ENTIN, T.I.

Morphology of interneuronic connections in the cortical end of the visual analyzer. Probl.fisiol.opt. 12:439-442 '58 (MIRA 11:6)

1. Kafedra anatomii i gistologii Leningradskogo universiteta im. A.A. Zhdanova.

(EYE--INNERVATION)

ENTIN, T.I.; TUR, E.N.

Synapses in the cerebral cortex and their changes in experimental hemorrhage. Nerv. sist. no.1:13-23 '60. (MIRA 13:9)

1. Kafedra anatomii i gistologii, Leningradskiy ordena Lenina gosudarstvennyy universitet im. A.A. Zhdanova.  
(CEREBRAL CORTEX) (HEMORRHAGE)

SEMENOV, Severin Pavlovich; URAZOV, Ivan Grigor'yevich; ENTIN, ~~Tamara Il'inichna~~; MAKAROV, P.V., prof., otv. red.;  
PETROVICHEVA, O.L., red.

[Manual for practical work in general histology with  
elements of microscopic anatomy] Posobie k prakticheskim  
zaniatiyam po obshchei gistologii s elementami mikrosko-  
picheskoi anatomii. Leningrad, Izd-vo Leningr. univ.,  
1964. 67 p. (MIRA 17:6)

ENTIN, T.I.

Changes in the synapses of the cerebral optic cortex in acute blood loss. Arkh. anat., gist. i embr. 48 no.6:3-11 Je '65. (MIRA 18:7)

1. Kafedra anatomii i gistologii (sav. - ohlen-korrespondent AMN SSSR, prof. P.V.Makarov) Leningradskogo gosudarstvennogo universiteta.

ENTIN, V.G.

Analyzing the performance of ovens and reactors for carbon black production by the composition of the exhaust gases. Kauch. 1  
rez. 23 no.2:32-35 F '64. (MIRA 17:3)

1. Nauchno-issledovatel'skiy konstruktorsko-tekhnologicheskiiy  
institut shinnoy promyshlennosti, g. Omsk.

KAYBICHEVA, M.N.; KUDRYAVTSEVA, T.N.; PETRIKEVICH, S.N.; ENTIN, V.G.

Testing of magnesite-chromite firebricks in the lining of a cyclone reactor for the preparation of activated carbon. Ogneupory 29 no.7:301-307 '64. (MIRA 18:1)

1. Vostochnyy institut ogneuporov (for Kaybicheva, Kudryavtseva).
2. Omskiy institut shinnoy promyshlennosti (for Petrikovich, Entin).

ZHUKOVA, Z.D.; PITAK, N.V.; ENTIN, V.G.

Phase changes in the lining of reactors for the production of carbon black. Ogneupory 30 no.9:26-32 '65. (MIRA 18:9)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (for Zhukova, Pitak). 2. Nauchno-issledovatel'skiy konstruktorsko-tehnologicheskiy institut shinnoy promyshlennosti (for Entin).

ENTIN, YA. B.

137-58-2-3252

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 143 (USSR)

AUTHOR: Entin, Ya. B.

TITLE: Automatic Blanking of Sheet Parts of Complex Contours for a Locomotive Diesel (Avtomaticheskaya vyrezka listovykh detaley slozhnoy konfiguratsii teplovoznogo dvigatelya)

PERIODICAL: Mashinostroitel' , 1956, Nr 2-3, pp 35-38

ABSTRACT: An automatic blanking (AB) procedure employed at the Kolomna Locomotive Plant for the cutting of sheet parts for the carcass of a locomotive diesel on an ASP-1 gas cutting machine is described. Comparison of the AB of the front and middle sheets and of the sheet at the vertical transmission as done at the Kolomna Works, with the manual cutting of these same sheets at the Khar'kov Diesel Locomotive Plant shows that the basic time for cutting AB of a single part is reduced by more than half. In addition, when AB is done by means of a template, the need for scribing is eliminated, the quality of the cut is improved, and the need for machining the internal and the curvilinear external contours of the parts is eliminated.

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V.S.

1. Locomotives—Manufacture 2. Gas cutting—Applications



*Entin, Ya. B.*

137-58-3-5290

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 118 (USSR)

AUTHORS: Chistoserdov , A. N., Entin, Ya. B.

TITLE: Manufacture of Metallic Electrodes of the E42 and E42A Type  
(Izgotovleniye metallicheskih elektrodov tipa E42 i E42A)

PERIODICAL: Mashinostroitel', 1957, Nr 6, pp 47-48

ABSTRACT: An account of the Kolomna engine-driven-locomotive plant's experience of replacing ferrotitanium in electrode coatings by the KPZ-32, KPZ-32A, and UONI-13/45 coatings containing powdered Ti (PT). Because of smaller amounts of PT contained in the coating (as compared with ferrotitanium), a reduced TiO<sub>2</sub> content, and decreased cost of manufacturing the electrodes, the employment of PT afford economical advantages. The composition of coatings containing PT and ferrotitanium is shown. Recommendations are made regarding the thickness of the coating. Electrodes covered with a coating containing PT possess good technological qualities and impart all required mechanical properties to the metal of the weld.

O.S.

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S/135/61/000/001/008/018  
A006/A001

AUTHOR: Entin, Ya.B., Engineer

TITLE: Organization of Progressive Welding Practice at Kolomna Locomotive Building Plant

PERIODICAL: Svarochnoye proizvodstvo, 1961, No. 1, pp. 26 - 29

TEXT: The Kolomna Locomotive Building Plant imeni Kuybyshev has been included into the number of plants where model welding practice is to be organized, based on the use of advanced technological processes and latest welding equipment. In 1960 the organization of the following model welding sections has been planned and developed: 1) a department for the assembly and welding of brass and German silver plate air coolers which are much more compact and economical than the former tubular coolers. Projection and argon-arc welding operations are mostly used in this department. The parts of the coolers are assembled of two press-formed corrugated brass or German silver plates and are welded along their longitudinal edges on a seam welding machine. The cooling section is assembled into a packet of 60-65 items which are connected with each other by projection welding on the МП -75 (MTP-75) machine. Special electrodes have been developed to be introduced into

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S/135/61/000/001/008/018 ✓  
A006/A001

Organization of Progressive Welding Practice at the Kolonna Locomotive Building Plant

5-6 mm large spaces between the plates. Projection welding is made on a special table designed at the Plant. The packet is welded into the cooler body by the argon-arc method on a CM-1000 (6M-1000) manipulator designed by VPTI of Heavy Machine Building. Tightness of the face ends of the cooler is ensured by soldering; i.e. the ends are plunged into a liquid solder bath. Combined spot welding and soldering produces strong and tight weld joints. The organization of this assembly and welding department ensures yearly savings of 45,000 rubles. 2) At the department for the assembly and welding of diesel engine blocks, great stress is laid upon mechanized and automated welding processes ensuring high quality welds. The assembly and welding of diesel engine blocks is performed on six special rotary positioners arranged in a line and assuring welding of all the seams in the lower position. The positioners are equipped with semi-automatic machines. The use of semi-automatic welding for the production of short curved seams or seams in difficulty accessible spots proved more efficient than automatic welding. Presently 14 semi-automatic ПШ-54 (PSh-54) machines are operating in this department yielding 178,000 rubles yearly savings. Two ring positioners have been developed for

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A006/A001

Organization of Progressive Welding Practice at the Kolomna Locomotive Building Plant

the final assembly and welding of blocks as well as a special stand for the mechanized trimming of the block after welding. CM-5000 (SM-5000) 5-ton welding manipulators are being successfully used, permitting the automatic welding of longitudinal seams of diesel engine blocks. Electric slag welding is used for application of longitudinal seams on 20 - 40 mm thick shells; a multi-purpose automatic machine is used for welding annular and butt joints of jackets and piston heads. Semi-automatic welding of curved seams connecting bands with vertical stands is performed on two special units. 3) The department of automatic cutting in the carcass-welding shop has been organized in 1960 and completed by 10 automatic cutting machines of different types. The scale-telephotoduplicating MDM-2 (MDM-2) machine assures the cutting out of 3-5 parts simultaneously, in correspondence with the drawing, and the CГY-1-58 (SGU-1-58) gas cutting machine makes possible the simultaneous cutting out of two parts. A special device has been designed for the removal of waste, which is placed underneath the machine; (Figure 7) ventilators absorb the gases formed during cutting. The introduction of the SGU-1-58 and other machines will bring about a 91% automation of cutting operations. The gas cutting automatic units have been converted to centralized propane-butane feed

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S/135/61/000/001/008/018  
A006/A001

Organization of Progressive Welding Practice at the Kolomna Locomotive Building Plant

instead of acetylene. 4) A welding laboratory is occupied with the development and introduction of new welding methods and materials, such as building up of special steels with  $\text{BXH-1}$  ( $\text{VKhN-1}$ ) alloys, welding of  $\text{ЭИ612}$  ( $\text{EI612}$ ) steel with  $\text{12XH3A}$  ( $\text{12KhN3A}$ ) steel, welding of non-ferrous metals using a propane-butane mixture, welding of plate coolers etc. A project was developed for the installation of a model laboratory of 700 m<sup>2</sup> surface which will be built in 1961. The Plant pays great attention to the advanced training of the welding staff. For this purpose continuous technological instruction has been organized and the engineers are regularly attached to important scientific research institutes in order to be introduced with the latest developments in welding practice. The Plant has worked out a seven-year plan on the development of welding operations according to which the amount of welded structure will increase by 1965 up to 257% as compared to 1959. The level of mechanization will increase up to 292% and labor consuming operations per one ton of welded structures will decrease by 65%.

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S/135/61/000/001/008/018  
A006/A001

Organization of Progressive Welding Practice at the Kolonna Locomotive Building Plant

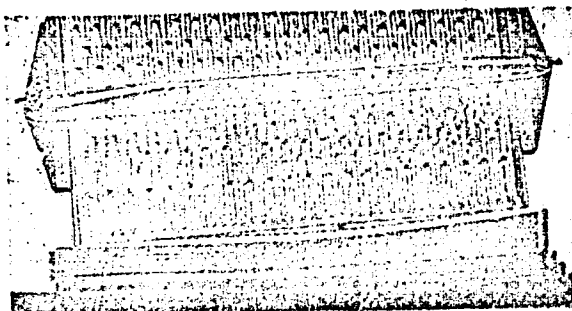


Figure 1: Press-formed plates of the refrigerating section of a cooler

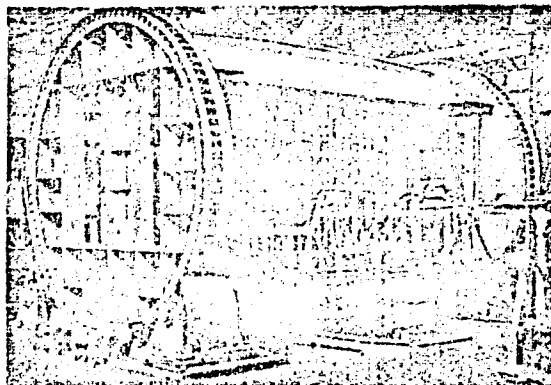


Figure 3: Semi-automatic welding of diesel blocks in a positioner

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A006/A001

Organization of Progressive Welding Practice at the Kolomna Locomotive Building Plant

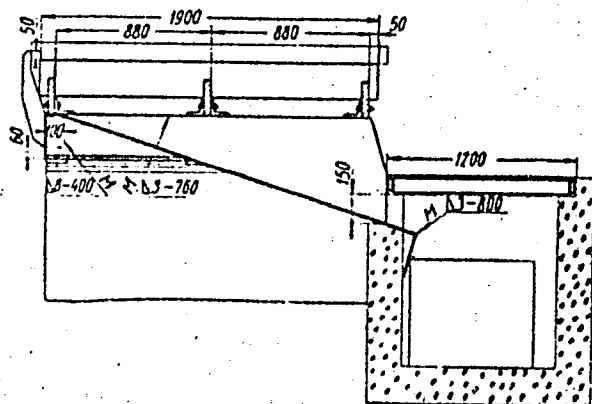


Figure 7: Cross section of a device for the removal of slag and waste in gas-cutting.

There are 7 figures and 1 table.

Card 6/6

ENTIN, Ya. M. (Engineer)

"Experiences in introduction into the Kolomensk Diesel locomotive factory a number of progressive methods of welding, mounts, manipulators and other attachments."

Report presented at the regular conference of the Moscow city administration NTO Mashprom, April 1963.

(Reported in Avtomaticheskaya Svarka, No. 8, August 1963, pp 93-95, M. M. Popekhin)

JPRS24,651

19 May 64



SAMEDOV, A.S.; MINTIN, Ya.S.

~~Materials on leptospirosis grippotyphosa in man in southern~~  
Azerbaijan. Azerb.med.zhur. no.6:78-81 Je '59. (MIRA 12:9)  
(AZERBAIJAN--LEPTOSPIROSIS)

STERKHOVA, N.N., kand.med.nauk; KENTIN, Ya.S., kand.med.nauk

Case of collective infection with Q fever. Azerb.med.shur. no.11:  
74-79 N '59. (MIRA 13:4)

1. Iz Azerbaydzhanskogo nauchno-issledovatel'skogo instituta epidemiologii, mikrobiologii i gigieny (direktor doktor meditsinskikh nauk B.F. Medzhidov).

(APSEIRON PENINSULA--Q FEVER)  
(ANIMALS AS CARRIERS OF DISEASE)

ENTIN, Ya.S.

Problem of eliminating malaria in organized collectives in the  
frontier districts of Azerbaijan. Azerb.med.zhu. 42 no.1:72-77  
Ja '65. (MIRA 18:5)

1. Okruzhnoy gosital' pogranichnykh voysk Komiteta gosudarstvennoy  
bezopasnosti Zakavkazakogo okruga.

SAMEDOV, A.S., mayor meditsinskoy sluzhby; ENTIN, Ya.S., podpolkovnik  
meditsinskoy sluzhby

Materials on nonicteric leptospirosis in Southern Azerbaijan.  
Voen.-med. zhur. no. 6:35-37 Je '60. (MIRA 13:7)  
(AZERBAIJAN—LEPTOSPIROSIS)

ENTIN, Ya.S.; BORDYUG, I.I.; ZERNIN, V.P.

Modernized disinfection and disinsection unit of the "SERNA-3"  
type. Med. paraz i paraz. bol. 32 no.3:356-358 My-Je'63  
(MIRA 17:3)

ENTIN, Ye.A., inzh.

Mechanization and automation of the vertical test stand for  
casting room-size gypsum-slag partitions. Mekh. stroi. 19  
no.4:17 Ap '62. (MIRA 15:9)  
(Precast concrete) (Walls)

ENTIN, Yu.

School "Crocodile" is effective. Prof.-tekh.obr. 17 no.2:28  
F '60. (MIRA 13:6)

(College and school journalism)

IVASHNEV, Lev Ivanovich; SIDORKIN, Vladimir Ivanovich; VASHURIN, A.A.,  
red.; ENTIN, Yu.S., red.; PEREDERIY, S.P., tekhn.red.

[Manual on equipping sites for training contact-network  
electricians in railroad and technical schools] Rukovodstvo  
po oborudovaniyu uchebnykh poligonov dlia obucheniia elektro-  
monterov kontaktnoi seti v zheleznodorozhnykh i tekhnicheskikh  
uchilishchakh. Moskva, Proftekhizdat, 1961. 57 p.

(MIRA 15:5)

(Electric railroads--Wires and wiring)  
(Railroads--Employees--Education and training)



AUTHORS: Galuzo, V.A., Entin, Z.B. SOV-101-58-5-7/10

TITLE: The Application of Phosphoric Salts and Overflow Juices of Tanneries as Diluents of Slime (Primeneniye fosfornykh soley i slivnykh sokov kozhevennogo zavoda v kachestve razzhizhitelya shlama)

PERIODICAL: Tsement, 1958, Nr 5, pp 26-27 (USSR)

ABSTRACT: In the Krichiev Cement Plant, raw materials are used which increase the moisture content of the slime to 44 - 52%. It is necessary to apply diluents to reduce the moisture content. For this purpose sulfate-alcohol slops are used. Experiments have been made with various phosphoric salts and by-products of tanneries, like overflow juices. These substances reduced the moisture content by 3 - 5%. The prime cost is also lowered. There are 2 tables and 1 Soviet reference.

ASSOCIATION: Krichievskiy tsementno-shifernyy kombinat (Krichiev Cement and Slate Plant)

1. Cement--Processing 2. Cement--Moisture factors 3. Sulfates  
--Applications 4. Alcohols--Applications 5. Phosphoric salts  
--Applications

Card 1/1

ALESHINA, O.K., inzh.; KITSIS, S.B., inzh.; SHAKHMAGON, N.V., inzh.; ENTIN, Z.B.,  
inzh.

Using sodium fluosilicate as a mineralizer at the Krichy Cement  
Factory. Nauch. soob. NIITsementa no. 7:1-4 '60. (MIRA 14:5)  
(Sodium fluosilicates) (Cement clinkers)

KHOLIN, I.I., dotsent, kand.tekhn.nauk; MALININ, Yu.S., kand.tekhn.nauk;  
ENTIN, Z.B., inzh.

Effect of firing temperature on the kinetics of clinker formation.  
Trudy NIITSement no.15:32-38 '61. (MIRA 14:9)  
(Clinker)

S/081/61/000/019/052/085  
B117/B110

AUTHORS: Kholin, I. I., Entin, Z. B., Malinin, Yu. S.

TITLE: Interaction of  $\beta$ -C<sub>2</sub>S and C<sub>3</sub>S with barium oxide

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 19, 1961, 314, abstract  
19K299 (Nauchn. soobshch. Gos. Vses. n.-i. in-t tsementn.  
prom-sti no. 10(41), 1961, 24-29)

TEXT: The interaction of C<sub>3</sub>S and  $\beta$ -C<sub>2</sub>S with BaO in the solid phase at 1400-1470°C was investigated. The annealed products of various mixtures of these oxides were subjected to X-ray structural, chemical, and microscopic analyses for determining their composition. An intensive decomposition of the Ca silicate with separation of free lime and BaO absorption was found to take place during the interaction of  $\beta$ -C<sub>2</sub>S and C<sub>3</sub>S with BaO in the solid phase. Binary Ca-Ba orthosilicate which can dissolve up to 2-3 mole% CaO is formed. With sufficient BaO amounts, the interaction of  $\beta$ -C<sub>2</sub>S with BaO takes place with simultaneous formation

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Interaction of  $\beta$ -C<sub>2</sub>S and...

S/081/61/000/019/052/085  
B117/B110

of two phases, one of which is CaO·BaO·SiO<sub>2</sub>. Therefore, this compound is a certain chemical compound ( $N_g = 1.767 \pm 0.006$ ,  $N_p = 1.754 \pm 0.006$ ) which is capable of forming with Ca orthosilicate a continuous series of solid solutions. It is not possible to increase the basicity of the binary orthosilicate at the expense of the free lime contained in the sample by repeated annealing. The possibility of increasing the basicity by increasing the BaO content has not been investigated. [Abstracter's note: Complete translation.] ✓

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24428

S/080/61/034/007/002/016  
D223/D305

AUTHORS: Kholin, I.I., Entin, Z.B., and Malinin, Yu.S.

TITLE: Reaction of clinker silicates with barium oxide

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 7, 1961,  
1419- 1430

TEXT: The system, corresponding to the usual Portland-cement clinker but in which part of  $\text{CaO}$  is substituted with  $\text{BaO}$ , has for some time now been the object of attention of specialists in the field of building materials. Such a substitution could add to the cement properties such as an increase in resistance to attack of sea-water, and greater protective power against powerful x-ray radiation. The present work involves the study of interaction in solid form between  $\text{C}_3\text{S}$  and  $\beta\text{-C}_2\text{S}$  with barium oxide, the composition of the product of heated mixtures of oxides and also the phase composition of the clinker containing  $\text{BaO}$ . The initial materials for preparing samples were previously synthetized  $\text{C}_3\text{S}$  and  $\beta\text{-C}_2\text{S}$ , and sta-

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Reaction of clinker silicates ...

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D223/D305

bilized with 0.5 %  $B_2O_3$  iron oxide, alumina and anhydrous  $SiO_2$ . The alkaline earth oxide was added to the charge in the form of carbonates. All materials were sieved through a screen 0064 (about 10,000 holes/cm<sup>2</sup>), mixed according to the Bogue method, and then formed into cylindrical tablets weighing 1 g. The tablets were heated in a silica or platinum furnace on a platinum base hence preventing contamination. The base was heated to 1400 or 1470°C for 4 hours after which the samples were kept at constant temperature for 2 hours. After this they were left in air for rapid cooling or left in a silica furnace to cool. The analysis shows that different cooling procedure did not produce any difference between samples. The cooled samples were x-ray analyzed using powder method and machine YPC-5P-I (URS-5P-I) and also surveyed by immersion. In addition, the content of free lime was determined by an alcohol-glycerol method. The results of investigation have shown that interaction of solid phases of  $\beta$ - $C_2S$  and  $C_3S$  with BaO resulted in the decomposition of calcium silicates yielding free lime by substitution of BaO. Double calcium-barium orthosilicate is formed, capa-

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Reaction of clinker silicates ...

ble of containing in solid solution a small excess of CaO. The interaction of  $\beta$ -C<sub>2</sub>S with BaO, with a sufficient quantity of barium oxide, resulted in the simultaneous formation of two phases, one of which was CaO.BaO.SiO<sub>2</sub>. This compound appears as a definite chemical compound ( $N_g = 1.767 \pm 0.006$ ;  $N_g = 1.754 \pm 0.006$ ) capable of forming a continuous series of solid solutions with calcium orthosilicate. The increase in basicity of double silicate by heating with free lime was not achieved, and the possibility of increasing the basicity by increasing the BaO content above one mole was not investigated. The presence of barium ions (Ba<sup>++</sup>) in the crystalline lattice of silicate was detected by P.F. Kononov, A.N. Yefremov and B.V. Volkonskiy (Ref. 10: Ionizatsiyonnaya rentgenostrukturnaya ustanovka dlya issledovaniya kristallicheskikh veshchestv pri razlichnykh temperaturakh (Ionization, X-ray Structural Device for the Investigation of Crystalline Matter at Different Temperatures) L. 1958). In partial substitution of clinker lime with barium oxide the latter in the main enters into the composition of the silicate. When substituting 0.5 mole % lime on barium oxide the

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Reaction of clinker silicates ...

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latter appears as an active mineralizer. At a BaO concentration of a few percent or more, the cementing in clinker does not form and the clinker contains a considerable amount of free lime. There are 7 figures, 3 tables and 10 references: 4 Soviet-bloc and 6 non-Soviet-bloc. The references to the English-language publications read as follows: R. Eskola, Am. J. Sci., 5, 4, 331, 1922; Bogue, The chemistry of portlandcement. II add., 1955.

SUBMITTED: October 10, 1960

Card 4/4

BUDNIKOV, P.P.; KHOLIN, I.I.; ENTIN, Z.B.

Measurement of cation transfer numbers in the liquid phase  
of a portland cement clinker. Dokl. AN SSSR 142 no.6:1342-  
1345 F '62. (MIRA 15:2)

1. Gosudarstvennyy vsesoyuznyy nauchno-issledovatel'skiy  
institut tsementnoy promyshlennosti. 2. Chlen-korrespondent  
AN SSSR (for Budnikov).  
(Portland cement)  
(Cations)

BUDNIKOV, P.P.; KHOLIN, I.I.; ENTIN, Z.B.

Diffusion coefficients of calcium in the liquid phase in the  
calcination of Portland cement clinker. Dokl. AN SSSR 144,  
no. 1:180-181 My '62. (MIRA 15:5)

1. Chlen-korrespondent AN SSSR (for Budnikov).  
(Portland cement) (Calcium) (Diffusion)

S/081/63/000/002/047/088  
B156/B144

AUTHORS: Kholin, I. I., Malinin, Yu. S., Entin, Z. B.  
TITLE: Effects of baking temperature on kinetics of clinker formation  
PERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1963, 386, abstract 2M160 (Tr. Gos. Vses. n.-i. in-ta tsementn. prom-sti, no.15, 1961, 32-38)

TEXT: The effects of small temperature variations ( $10^{\circ}\text{C}$ ) in the range close to eutectic on the assimilation rate of lime in clinkers synthesized from chemically pure reagents and corresponding, by composition, to high-alite clinker (3 specimens) and standard Portland cement (3 specimens) have been studied. Two specimens contained no iron, and their compositions corresponded to those of white cements. The iron-free clinkers were investigated at every  $10^{\circ}\text{C}$  between  $1390$  and  $1470^{\circ}\text{C}$  (eutectic point was taken as  $1455^{\circ}\text{C}$ ); the remainder were investigated at  $1320$ - $1420^{\circ}\text{C}$  (eutectic at  $1338^{\circ}\text{C}$ ). An abrupt decrease in the  $\text{CaO}_{\text{free}}$  content was found in the specimens containing  $\text{Fe}_2\text{O}_3$  at temperatures above eutectic,

and 1/2

BUDNIKOW, P.P. [Budnikov, P.P.], prof.dr. (Moskva); CHOLIN, I.I. [Kholin, I.I.]; ENTIN, Z.B.

Measuring the numbers of cations transferred in the liquid phase of portland clinker. Cement wapno gips 17 no.5:123-125 My '62.

1. Członek rzeczywisty Polskiej Akademii Nauk, Warszawa.

BUDNIKOV, P.P.; SHAKHMAGON, N.V., kand. tekhn. nauk; ENTIM, Z.B., kand.  
tekhn. nauk

Effect of sodium fluosilicate on the viscosity of the clinker  
liquid phase. Tsement 30 no.1:6-8 Ja-F '64. (MIRA 17:8)

1. Chlen-korrespondent AN SSSR (for Budnikov).

ENTINA, D.N.

Stammering in children. Zdrav. Tadzh. 8 no.3:36-38 My-Je '64:  
(MIRA 14:6)

1. Iz opyta raboty logopedicheskogo kabineta poliklinicheskogo  
otdeleniya Stalinabadskoy gorodskoy klinicheskoy bol'nitsy.  
(STAMMERING)

S/076/62/036/002/008/009  
B152/B110

AUTHORS: Malinin, Yu. S., and Entin, Z. B. (Moscow)

TITLE: Vibro-viscoconductometer for measuring and recording the viscosity and electrical conductivity of high-temperature melts

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 2, 1962, 399 - 400

TEXT: A description is given of: (1) the determination of the viscosity of melts with this device: A movable copper rod is placed in the field of two annular magnets, the like poles of which face each other. The rod is linked to the operating body by a flexible strip of flat soft steel. The operating body is made of platinum and has the shape of a cylindrical bell of 14 mm diameter welded on a platinum pedicle. The whole operating body weighs about 12 g. Two plate springs fix the rod which carries two coils of 800 turns each. The natural frequency of the system consisting of the rod and the operating body is to agree with commercial frequency (50 cps), which can be achieved by adjusting two weights on the upper spring. The electromagnetic system is mounted upon a rigid steel stand and provided

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Vibro-viscoconductometer...

with air dampers. The device is fed by an CH3-120/0.1 (SNE-120/0.1) voltage stabilizer through a step-down transformer, a meter switch, and the primary winding of a differential transformer. The input voltage of the apparatus is 0.8 - 1.3 v. The secondary voltage of the differential transformer depends only on the oscillation amplitude of the frame, which, in the case of resonance, is only a function of viscosity. This voltage is put through a single-cascade amplifier to a recording millivoltmeter. The scale of viscosity has been graduated using castor oil. (2) The electrical conductivity is measured by the unbalanced bridge technique. The branches of the bridge consist of Constantan resistors:  $R_1 = R_2 = R_3 = R_4 = 100$  ohms. The bridge is fed with 3 - 12 v by the voltage stabilizer SNE 120/0.1 through a step-down transformer and a meter switch. The single-cascade amplifier is assembled on a П-16 (P-16) triode. The output passes a ДГ4-23 (DGTs-23) diode. In one branch in series lie the cell consisting of crucible (26 mm in diameter) and the operating body. The voltage of the bridge diagonal is connected to the second channel of the galvanometer through a single-cascade amplifier. The vibration of the operating body does not affect the indication in the conductivity circuit. Graduation has been carried out by means of a resistance box. To measure

Vibro-viscoconductometer...

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the resistance of the leads, the operating body was dipped in to the bottom of the crucible. For this purpose, a resistance box was used. The viscosimeter possesses a platinum-rhodium furnace designed to heat samples to 1500°C. The furnace rests upon a platform that can be displaced vertically. The sample is put in as powder. After melting the furnace is lifted until the molten mass touches the operating body. The instant of contact is fixed by the pilot lamp  $\lambda$  (L). 30 - 40 g of material is needed for one measurement. Temperature is regulated by a platinum-platinum-rhodium thermocouple, and viscosity and conductivity are measured while temperature decreases by 3 - 4°C/min. The results obtained could be reproduced well; deviations of parallel measurements did not exceed 5 - 7% of the measured value. There are 1 figure and 3 Soviet-bloc references.

ASSOCIATION: Nauchno-issledovatel'skiy institut tsementnoy promyshlennosti  
(Scientific Research Institute of the Cement Industry)

SUBMITTED: July 7, 1961

Card 3/4 3

ENTINA, Lidiya Iosifovna

[Calf barn for 146 head with a section for newborns with vaulted roof, built of three-step blocks. Model plan No.220] Teliatnik na 146 skotomest s pomeshcheniem dlia molodnyaka so svodchatym pokrytiem iz trekhatupenchatykh blokov. Tipovoi proekt No.220. Kiev, Izdatel'skiy otдел, 1955. 10 p. 28 plans. (MLRA 9:10)

1. Ukrainskiy gosudarstvennyy institut proyektirovaniya sel'skogo i kol'khoznoho stroitel'stva.  
(Barns)

ACCESSION NR: AP4025106

S/0020/64/155/003/0506/0508

AUTHORS: Birman, M. Sh.; Entina, S. B.

TITLE: A stationary approach into the abstract theory of dispersion

SOURCE: AN SSSR. Doklady\*, v. 155, no. 3, 1964, 506-508

TOPIC TAGS: dispersion, dispersion theory, abstract dispersion theory, Hilbert space, self conjugate operator, self adjoint operator, wave operator, finite dimensional perturbation

ABSTRACT: This paper gives a foundation for the so-called stationary sequence of dispersion theory within the framework of the abstract theory of operators. Convenient representations of wave operators and operators of scattering through limiting values of resolvents are given in the assumptions concerning perturbation. One practical and convenient method for computing the S-matrix is also given. A new purely "stationary" proof of the Rosenblum - Kato theorem (M. Rosenblum, Pacif. Journ. Math, v 7, (1957), no. 1; T. Kato, Journ. Math. Soc. Japan, vol. 9 (1957), no. 2; Proc. Japan Acad., vol 33 (1957), no. 5) concerning the existence of wave operators is obtained at the same time. The methodological advantage

Cord. 1/2

ACCESSION NR: AP4025106

of the method presented herein is the absence of a passage to the limit from finite-dimensional perturbations. This makes it possible to transfer the obtained results to a case of more generalized perturbations, which makes them particularly applicable in a three-dimensional quantum scattering problem. Author also notes that the relation

$$(W_{\pm}/g) = \int_{-\infty}^{+\infty} |d(E_{\pm} Q_{\pm}^{\pm} f/g)/d\lambda|_{\lambda=E_{\pm}} d\lambda.$$

is a "correct" notation for the well-known Lippman-Schwinger equation. Orig. art. has: 7 equations.

ASSOCIATION: Leningradskiy gosudarstvennyy\* universitet im. A. A. Zhdanova (Leningrad State University)

SUBMITTED: 29Nov63

DATE ACQ: 17Apr64

ENCL: 00

SUB CODE: MM

NR REF SOV: 008

OTHER: 006

Card 2/2

LUR'YE, O.B. Prinimali uchastiye: SHEROV-IGANT'YEV, G.P.; GAMBURG, R.A.; ENTINA, Ye.I.; YANKEL'SON, I.S., red.; ZABOLOTSKIY, N.G., red.; SVESHNIKOV, A.A., tekhn. red.

[Video frequency amplifiers] Usiliteli videochastoty. Izd.2., perer. i dop. Moskva, Izd-vo "Sovetskoe radio," 1961. 675 p.  
(MIRA 15:2)

(Amplifiers (Electronics))

ENTIS, A. [IEntys, A.], insh.

Overall mechanization of the feeding of a concrete mix to molds.  
Bud.mat.i konstr. 4 no.6:55-57 N-D '62. (MIRA 15:12)  
(Precast concrete)

ENTS, M.G.

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Increasing the output of a rotary kiln working on natural gas.

Tsomet 17 no.4:19-20 J1-Ag '51.

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5 no.1:31 Ja '63.

1. Vedeckovyakumny uhelny ustav, Radvanice.

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Calculating machines in the mining industry. Uhl 4 no.11:393 N '62.

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Josef Radomil Cejka; first Czechoslovakian assistant professor of dermatology in Prague. Cesk.derm. 31 no.4:231-236 Aug 56

(BIOGRAPHIES

Cejka, Josef R. (Cz))

(DERMATOLOGY, hist.

contribution of Josef R.Cejka (Cz))

ENTNER, H.

Origin of the Czech Western Railroad. p. 170.  
(SBORNIK PRO DEJINY PŘÍRODNÍCH VED A TECHNIKY, vol. 1954, Praha)

SO: Monthly List of East European Accession, (EEAL) LC, Vol. 4, No. 11,  
Nov. 1955, Uncl.

ENTNER, H.

"Technical plan of railway-hub stations." p.238

ZELEZNICAR, (Ministartvo dopravy) Praha, Czechoslovakia No. 11, Nov. 1958

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 6, June 1959

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August 1959.  
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Friend of Smetana, a railroad man. p. 124.

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"In memory of those who are often forgotten." p. 165.

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ENTNEROVA, K.

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Title: Co-author of "The Relationship between Soil Contamination  
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PARRAKOVA, E.; ENTNEROVA, K.; LAMPRECHT, R.

The location of refuse bins in block buildings from the hygienic aspect.  
Cesk. hyg. 7 no.9:568-572 0 '62.

1. Oblastny ustav hygieny, Bratislava.  
(REFUSE DISPOSAL)

ENTON, N.

112-3-6222

Translation from: Referativnyy Zhurnal, Elektrotehnika, 1957,  
Nr 3, p. 168 (USSR)

AUTHOR: Enton, N.

TITLE: Design and Development of a Series of Accurate Detectors  
for Measuring Radioactive Aerosols, and Their Application to  
Dosimetric Control (Razrabotka i konstruirovaniye serii  
tochnykh detektorov dlya izmereniya radioaktivnykh  
aerozoley i primeneniye ikh v tselyakh dozimetricheskogo  
kontrolya)

PERIODICAL: In sbornik: Dozimetriya ioniziruyushchikh izlucheniy,  
Moscow, Gostekhteorizdat, 1956, pp. 287-324

ABSTRACT: The safe degree of air pollution with radioactive dust  
and the specifications for dosimeters are presented.  
An instrument for determining the radioactive dust content  
of the air is described in detail. The measurement range  
is from  $0.5 \times 10^{-7}$  to  $500 \times 10^{-7}$  microcuries/cm<sup>3</sup>.  
During the measuring process the air is blown through a  
ribbon of filter paper, which is in constant motion.

Card 1/2 The radioactive contamination of the ribbon is then

112-3-6222

Design and Development of a Series of Accurate Detectors for Measuring  
Radioactive Aerosols, and Their Application to Dosimetric Control (Cont.)

determined by means of a specially-designed halogen G-M counter operating on average current. A technique of direct measurement of radioactive dust concentration in the air and the design of the counter used are described. Included is a brief description of a laboratory instrument for comparative measurement of the degree of activity of filter paper discs and of the sample tested by the instrument.

V.B.I.

Card 2/2

ENTOV, R.

A book on the Federal Reserve System of the U.S.A. ("The Federal Reserve System"; aims and functions. Reviewed by R. Entov). Den.1 kred. 18 no.6:86-90 Je '60. (MIRA 13:6)  
(United States--Federal reserve banks)

ENTOV, R.

Modern Keynesian theories of deficit financing and the myth  
about the "democratization of national debt." Vop. ekon. no.10:54-  
65 0 '60. (MIRA 13:9)  
(Debts, Public) (Economic policy)

EMTOV, R. M.

Dissertation defended for the degree of Candidate of Economic Sciences at the  
Institute of World Economics and International Relations

"Increase in the National Debt and Problems of Developing Governmental Credit in the  
US in the Postwar Period."

Vestnik Akad. Nauk, No. 4, 1963, pp 119-145

L 4334-66

ACC NR: AP5028672

SOURCE CODE: GE/0006/65/000/001/0029/0031

AUTHOR: Entress, G. (Illmenau)

ORG: none

TITLE: A method for deriving electric equivalent circuit diagrams of non-linear components

SOURCE: Nachrichtentechnik, no. 1, 1965, 29-31

TOPIC TAGS: transistor, linear function, circuit theory

ABSTRACT: The article describes a method by which non-linear network elements are represented in equivalent circuit diagrams. This method is illustrated on an example of a transistor in the emitter connection operating at large signals. The method is based on the approximation through piece-wise linear functions, in this case of collector current versus base current and collector-emitter voltage

$$-I_0 = \gamma(-I_B) + \delta(-V_{CE})$$

Various configurations are possible depending on the manner in which the approximation is made. Saturation can also be accounted for.

Orig. art. has: 12 formulas, 6 figures. [JPRS]

SUB CODE: EC / SUBM DATE: 21Apr64 / OTH REF: 003 / SOV REF: 001

Card 1/1

UDC: 621.391



USSR / Farm Animals. Swine.

Q

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 21259

Author : Entus, M. A.

Inst : Krymskaya Oblast' State Agricultural Experimental  
Station

Title : Experiments in Raising High-Grade Young Swine Stock  
of the Large White Breed

Orig Pub : Tr. Krymsk. obl. gos. s.-kh. opytn. st., 1956, 2,  
75-78

Abstract : A project of supplementary feeding was proposed for  
nursing piglets which includes feeds most widely used  
in the Crimea. The order in which the piglets were  
fed is described. During the nursing period, 7 liter  
of whole milk, 16 liter of sour milk, 7.5 kg of roasted  
grain, 13.5 kg of grain waste, 4.9 kg of juicy feeds and  
2.3 kg of lucerne hay are fed. Data are given of the

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USSR / Farm Animals. Swine.

Q

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 21259

piglets' growth rate before weaning. In 1953, choice and grade I output at the age of 2 months, constituted 63.9 percent, in 1954, 89 percent, and in 1955, 95.4 percent. At weaning, piglets were raised on a ration which consisted of barley and corn waste, corn silage, sour milk, lucerne hay, and salt. Until a live weight of 14 kg was reached, sour milk was included in the amount of up to 10 percent of the general nutritional value of the ration for a forced growth increase of weaned piglets. In 1955, the output of choice animals at the age of 4 months amounted to 54.5 percent, of grade I animals, 41.8 percent, of grade II, 2.6 percent, and of grade III, 1.1 percent; none of the animals were of below grading quality. -- A. D. Musin

Card 2/2

KNTZ, A.;HEMETH, T.;NYARADY, I.

~~SECRET~~  
Statistical evaluation of late results in antibiotic treatment of tuberculosis. Orv. hetil. 93 no. 13:394-395 30 Mar 1952. (CINL 2313)

1. Doctors.

ENTZ, A.

The BCG in pulmonary tuberculosis. Orv. hetil. 94 no. 40:1113-1116 4  
Oct 1953. (CML 25:5)

1. Doctor. 2. Koranyi State Tuberculosis Sanatorium (Director - Head  
Physician -- Dr. Pal Dossauer).

ENTZ, Albert, dr.

The functional unity of the respiration and circulation from the viewpoint of the pneumonologist. Tuberk. kérdési 7 no.3:36-38 June 54.

1. A Debreceni Állami Tudorbeteggyógyintézet (igazgató-főorvos: Pongor Ferenc dr.) III. betegosztályának (főorvos: Entz Albert dr.) közleménye

- (TUBERCULOSIS, PULMONARY, physiology, cardiovasc. & resp. tract as single unit in resp. to tuberc. & surg. of tuberc.)
- (RESPIRATORY TRACT, in various diseases, tuberc., pulm., response of cardio-resp. system to tuberc. & surg. of tuberc.)
- (CARDIOVASCULAR SYSTEM, in various diseases, tuberc., pulm., response of cardio-resp. system to tuberc. & surg. of tuberc.)

ENTZ, Albert, dr.; RACZ, Istvan, dr.; SZILAGYI, Janos, dr.

Perforation of the stomach complicating pneumoperitoneum in pulmonary tuberculosis. Tuberk. kerdesei 7 no.5:79-80 Oct 54.

1. A debreceni Allami Tudobeteggyogyintezet (igazgato-foorvos: Pongor Ferenc dr.) III. betegosztalyanak (foorvos: Entz Albert, dr.) es a debreceni Varosi tanacskehaz (igazgato-foorvos: Muranyi Klara dr.) sebesseti osztalyanak (foorvos: Nagy Zoltan dr.) kozlemenye  
(STOMACH, perf.  
complicating artif. pneumoperitoneum in pulm. tuberc.)  
(PNEUMOPERITONEUM, ARTIFICIAL, ther. use  
tuberc., pulm., compl. by stomach perf.)

BERENCSEI, Gyorgy, dr.; ENTZ, Albert, dr.; VAJKOSY, Akos, dr.

Isoniazid therapy and cancer of lungs. Tuberk. kerdesei 8 no.3:  
83-85 June 55

1. A debreceni Allami Tudobeteggyogyintezet (igazgato foorvos:  
Pongor Ferenc dr) kozlomenye.  
(NICOTINIC ACID ISOMERS, ther. use  
isoniazid, in lung cancer)  
(LUNGS, neoplasms  
ther., isoniazid)

ENTZ, Albert, dr.

Effect of therapeutic gymnastics on the respiratory function  
after thoracal surgery. Tuberk. kerdesei 8 no.4:107-109 Aug 55.

1. A Debreceni Allami Tudobeteggyogyintezet (igazato: foorvos:  
Ponger Ferenc dr.) kozlemenye.

(TUBERCULOSIS, PULMONARY, surg.

postop. exercise ther., eff. on resp. (Hun))

(EXERCISE THERAPY, in various dis.

tuberc., pulm., postop. eff. on resp. (Hun))

(RESPIRATION, in various dis.

tuberc., pulm., eff. of postop. exercise ther. (Hun))



ENTZ, Albert, dr.

Present state of meningeal tuberculosis in adults. Orv. hetil.  
96 no.3:79-83 16 Jan 55

1. A Debreceni Allami Tudobeteggyógyintézet (igazgató-főorvos:  
Pongor Ferenc dr.) közleménye.

(NICOTINIC ACID ISOMERS, therapeutic use,  
isoniazid in meningeal tuberc., with streptomycin)

(STREPTOMYCIN, therapeutic use,  
tuberc., meningeal, with isoniazid)

(TUBERCULOSIS, MENINGEAL, therapy,  
isoniazid with streptomycin)

ENTZ, Albert, dr.

Case of spontaneous hemothorax. Tuberk. kerdesei 9 no.4:  
177-178 Aug 56.

1. A Debreceni Orvostud. Egyetem Tbc. Klinkájának (igaz.  
Pongor, Ferenc, dr. tanszékvezető docens) közl.

(HEMOTHORAX, case reports  
spontaneous (Hun))

ENTZ, Albert, Dr.

Cardiorespiratory function and lung resection. Tuberkulózis 11 no.3-5:  
72-77 Mar-May 58.

1. A Debreceni Orvostudományi Egyetem TBC Klinikájának (Igazgató:  
Pongor Ferenc dr.) közleménye.

(PNEUMONECTOMY

cardioresp. funct. following various types of pneumonectomy  
(Hun))

ENTZ, Albert, Dr.; PAPP, Andras, Dr.

Pneumoperitoneum in the therapy of tuberculosis. Orv. hetil. 99 no.11:  
370-374 16 Mar 58.

1. A Debreceni Orvostudományi Egyetem Tbc. Klinika (igazgató: Pongor  
Ferenc dr.) III. sz. Tudobelosztályának (osztályvezető: EntzAlbert dr.)  
és az Állami Fodor József Tudobeteggyógyintézet (igazgató-főorvos:  
Risiko Tibor dr. I. sz. Tudobelosztályának (főorvos: Papp Andras dr.)  
közleménye.

(PNEUMOPERITONEUM, ARTIFICIAL, ther. use

tuberc., pulm. comparison with drug ther. (Hun))

(TUBERCULOSIS, PULMONARY, ther.

artif. pneumoperitoneum, comparison with drug ther. (Hun))